

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Currently Amended): A plasma processing apparatus for performing a processing on a to-be-treated substrate mounted on a mounting table in a processing vessel by a plasma of a processing gas, comprising:

a ring member formed of an insulating material, installed to surround the to-be-treated substrate on the mounting table and spaced apart from an outer periphery of the to-be-treated substrate, a top surface of the ring member being substantially flush with a top surface of the to-be-treated substrate;

one or more a plurality of electrodes embedded inside the ring member along a diametrical direction thereof; and

a plurality of DC power supply supplies for applying [[a]] DC voltage voltages to the one or more electrodes to adjust a plasma sheath region above the ring member, the DC voltages applied to the electrodes being adjusted independently from each other.

Claim 2 (Original): The plasma processing apparatus of claim 1, further comprising a means for varying the applied voltage such that a first DC voltage is applied to the one or more electrodes when a first process is performed on the to-be-treated substrate and a second DC voltage is applied to the one or more electrodes when a second process is performed on the to-be-treated substrate.

Claim 3 (Original): The plasma processing apparatus of claim 2, wherein the first process is etching of a thin film and the second process is etching of another thin film which is different from the thin film in the first process.

Claim 4 (Canceled).

Claim 5 (Currently Amended): A ring member in a plasma processing apparatus for performing a processing on a to-be-treated substrate mounted on a mounting table in a processing vessel by a plasma of a processing gas,

wherein the ring member is formed of an insulating material, installed to surround the to-be-treated substrate on the mounting table and spaced apart from an outer periphery of the to-be-treated substrate, wherein the ring member comprises:

~~one or more a plurality of electrodes~~^{[[,]]} embedded inside the ring member along a diametrical direction thereof, to each of which ^{[[a]]} an independently controllable DC voltage is applied to adjust a plasma sheath region above the ring member,

wherein a top surface of the ring member is substantially flush with a top surface of the to-be-treated substrate.

Claim 6 (Original): The ring member of claim 5, wherein a first DC voltage is applied to the one or more electrodes when a first process is performed on the to-be-treated substrate and a second DC voltage is applied to the one or more electrodes when a second process is performed on the to-be-treated substrate.

Claim 7 (Original): The ring member of claim 6, wherein the first process is etching of a thin film and the second process is etching of another thin film from which is different from the thin film in the first process.

Claims 8-9 (Canceled).

Claim 10 (Original): The ring member of claim 5, further comprising:
a base material; and
a film formed by thermal spraying of ceramic on a surface of the base material,
wherein the film is formed of ceramic including at least one kind of element selected
from the group consisting of B, Mg, Al, Si, Ca, Cr, Y, Zr, Ta, Ce and Nd, and at least a
portion of the film is sealed by a resin.

Claim 11 (Canceled).

Claim 12 (Original): The ring member of claim 10, wherein the resin is selected from
the group consisting of SI, PTFE, PI, PAI, PEI, PBI and PFA.

Claim 13 (Original): The ring member of claim 5, further comprising:
a base material; and
a film formed by thermal spraying of ceramic on a surface of the base material,
wherein the film is formed of ceramic including at least one kind of element selected
from the group consisting of B, Mg, Al, Si, Ca, Cr, Y, Zr, Ta, Ce and Nd, and at least a
portion of the film is sealed by a sol-gel method.

Claim 14 (Canceled).

Claim 15 (Original): The ring member of claim 13, wherein a sealing treatment is
executed by using an element selected from elements in the Group 3a of the periodic table.

Claim 16 (Original): The ring member of claim 10, wherein the ceramic is at least one kind selected from the group consisting of B₄C, MgO, Al₂O₃, SiC, Si₃N₄, SiO₂, CaF₂, Cr₂O₃, Y₂O₃, YF₃, ZrO₂, TaO₂, CeO₂, Ce₂O₃, CeF₃ and Nd₂O₃.

Claim 17 (Original): The ring member of claim 5, further comprising:
a base material; and
a film formed on a surface of the base material,
wherein the film has a main layer formed by thermal spraying of ceramic and a barrier coat layer formed of ceramic including an element selected from the group consisting of B, Mg, Al, Si, Ca, Cr, Y, Zr, Ta, Ce and Nd.

Claim 18 (Original): The ring member of claim 17, wherein the barrier coat layer is formed of at least one kind of ceramic selected from the group consisting of B₄C, MgO, Al₂O₃, SiC, Si₃N₄, SiO₂, CaF₂, Cr₂O₃, Y₂O₃, YF₃, ZrO₂, TaO₂, CeO₂, Ce₂O₃, CeF₃ and Nd₂O₃.

Claim 19 (Original): The ring member of claim 17, wherein the barrier coat layer is a thermally sprayed film at least a portion of which is sealed by a resin.

Claim 20 (Original): The ring member of claim 19, wherein the resin is selected from the group consisting of SI, PTFE, PI, PAI, PEI, PBI and PFA.

Claim 21 (Original): The ring member of claim 17, wherein the barrier coat layer is a thermally sprayed film at least a portion of which is sealed by a sol-gel method.

Claim 22 (Original): The ring member of claim 21, wherein a sealing treatment is performed by using an element selected from elements in the Group 3a of the periodic table.

Claim 23 (Original): The ring member of claim 5, further comprising:
a base material; and
a film formed on a surface of the base material,
wherein the film has a main layer formed by thermal spraying of ceramic and a barrier coat layer formed of engineering plastic formed between the base material and the main layer.

Claim 24 (Original): The ring member of claim 23, wherein the engineering plastic is a plastic selected from the group consisting of PTFE, PI, PAI, PEI, PBI, PFA, PPS, and POM.

Claim 25 (Original): The ring member of claim 23, wherein the main layer is formed of at least one kind of ceramic selected from the group consisting of B₄C, MgO, Al₂O₃, SiC, Si₃N₄, SiO₂, CaF₂, Cr₂O₃, Y₂O₃, YF₃, ZrO₂, TaO₂, CeO₂, Ce₂O₃, CeF₃ and Nd₂O₃.

Claims 26-47 (Canceled).